

ABSTRACT OF THE INVENTION

A corneal appliance that is placed over an eye has a lens body and epithelial cells secured over the lens body. The epithelial cells of the appliance may be derived from cultured cells, including stem cells, such as limbal stem cells, or epithelial cell lines, or may include at least a portion of the epithelium of the eye on which the appliance is placed. The corneal appliance may have a cellular attachment element between the lens body and the epithelial cells to facilitate attachment of the epithelial cells over the lens body. The corneal appliance is intended to be used on a deepithelialized eye, which may be an eye that has had the epithelium fully or partially removed. The corneal appliance may be used to improve vision. Methods of producing the corneal appliance and of improving vision are also disclosed.